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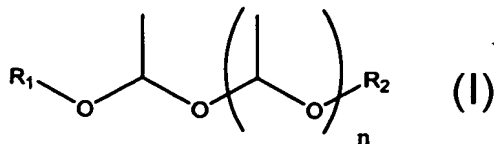
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(54) Title: FLAVOR AND FRAGRANCE COMPOUNDS



(57) Abstract: Acetaldehyde precursors useful in flavors and fragrances, especially in consumable products, are according to formula (I), wherein R₁ and R₂ are selected such that both are -CH₂CH₃, or both are linear, branched or cyclic alkyl, aryl, alcohol or sugar residues, and n=1-10, with the proviso that, when R₁ and R₂ are selected such that both are -CH₂CH₃, n=1, 2, 3 or 4. The precursors overcome many of the disadvantages of present sources of acetaldehyde in consumable products.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07C43/303 C07C43/315 A23L1/226 C11B9/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

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IPC 7 C07C A23L C11B C07H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

CHEM ABS Data, BEILSTEIN Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 661 184 A (DISTILLERS COMPANY) 21 November 1951 (1951-11-21) the whole document	1,2
X	SU MIN OON: "Hydrolysis of aldal acetals" JOURNAL OF ORGANIC CHEMISTRY, vol. 47, no. 7, 1982, pages 1166-1171, XP002270025 EASTON US cited in the application table V, entries 1-4	1,2
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	M. GOODMAN: "Conformations of polyacetaldehyde model compounds via dipole moment studies and minimum potential energy calculations" MACROMOLECULES, vol. 1, no. 3, 1968, pages 223-232, XP002270174 page 224, column 2, compound nos. (4) and (7)	1
X	--- DATABASE CROSSFIRE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; Database-Accession No. 1703885, XP002270175 abstract & LIEBIGS ANNALEN DER CHEMIE, vol. 218, 1883, page 13 WEINHEIM DE	1
X	--- DATABASE CROSSFIRE BEILSTEIN 'Online! BEILSTEIN INSTITUT ZUR FÖRDERUNG DER CHEMISCHEN WISSENSCHAFTEN, FRANKFURT AM MAIN, DE; Database-Accession No. 1750075, XP002270176 abstract & LIEBIGS ANNALEN DER CHEMIE, vol. 218, 1883, page 13 WEINHEIM DE	1
A	--- US 4 280 011 A (R. S. DESIMONE) 21 July 1981 (1981-07-21) cited in the application column 18, line 31 -column 26, line 53	4-7
A	--- US 4 781 762 A (B. BYRNE) 1 November 1988 (1988-11-01) cited in the application examples	4-7
A	--- US 4 296 138 A (R. M. BODEN) 20 October 1981 (1981-10-20) column 1, line 11 - line 30; claims	4-7
A	--- R. S. DESIMONE: "Aldehyde generators for flavors" PERFUMER & FLAVORIST, vol. 11, 1987, pages 15-26, XP008027508 cited in the application the whole document -----	4-7

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT 03/00784

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
GB 661184	A	21-11-1951	NONE	
US 4280011	A	21-07-1981	AU 523396 B2	29-07-1982
			AU 3257578 A	26-07-1979
			BE 863171 A2	24-07-1978
			CA 1128054 A1	20-07-1982
			CH 631056 A5	30-07-1982
			DE 2802821 A1	27-07-1978
			FR 2390111 A1	08-12-1978
			GB 1595141 A	05-08-1981
			IL 53874 A	30-07-1982
			IT 1092973 B	12-07-1985
			JP 1438751 C	19-05-1988
			JP 53105408 A	13-09-1978
			JP 62045853 B	29-09-1987
			JP 1496017 C	16-05-1989
			JP 62201883 A	05-09-1987
			JP 63043397 B	30-08-1988
			NL 7800754 A	25-07-1978
			US 5079023 A	07-01-1992
US 4781762	A	01-11-1988	US 4697025 A	29-09-1987
			AT 60047 T	15-02-1991
			AU 604466 B2	20-12-1990
			AU 6269586 A	19-03-1987
			CA 1248122 A1	03-01-1989
			DE 3676926 D1	21-02-1991
			EP 0217581 A1	08-04-1987
			JP 2521672 B2	07-08-1996
			JP 62123148 A	04-06-1987
US 4296138	A	20-10-1981	US 4296137 A	20-10-1981
			US 4354953 A	19-10-1982
			US 4330417 A	18-05-1982
			US 4333481 A	08-06-1982
			US 4357316 A	02-11-1982
			US 4331571 A	25-05-1982
			US 4386063 A	31-05-1983
			CA 1160030 A1	10-01-1984
			CA 1160031 A1	10-01-1984
			DE 3165399 D1	13-09-1984
			DE 3166486 D1	08-11-1984
			EP 0046072 A2	17-02-1982
			EP 0048545 A2	31-03-1982
			US 4339341 A	13-07-1982
			US 4341646 A	27-07-1982
			US 4347857 A	07-09-1982
			US 4357315 A	02-11-1982
			US 4419280 A	06-12-1983
			US 4348416 A	07-09-1982